

CASTING OF SINGLE CRYSTAL SUPERALLOY ARTICLES WITH
REDUCED AS-CAST SCALE AND GRAIN RECRYSTALLIZATION

ABSTRACT OF THE DISCLOSURE

A single crystal casting is cast from a nickel base superalloy including Cr, Co, Mo, W, Ta, Al, Ti, Re and Hf as alloying elements with C increased effective to substantially reduce formation of a solidification-driven, as-cast eutectic/secondary phase scale metallurgically bonded to the casting when the alloy is cast as a single crystal and to reduce recrystallized grains when the casting is solution heat treated.